

## LINE-OF-SIGHT ANTITANK MISSILE (LOSAT)



### Army Pre-MDAP ACTD Program

Total Program Cost (TY\$)      \$255M

### Prime Contractor

Lockheed Martin Vought Systems

### SYSTEM DESCRIPTION & CONTRIBUTION TO JOINT VISION 2010

The Line-Of Sight Anti-Tank (LOSAT) Missile is a dedicated anti-tank weapon system designed to provide a high rate of extremely lethal fire, defeating any known or projected armor systems at ranges greater than 4 km. The system consists of an expanded capacity High Mobility Multi-Purpose Wheeled Vehicle (HMMWV) with a two-man crew, four hypervelocity kinetic energy missiles, and a second-generation forward-looking infrared/TV acquisition sensor. LOSAT is deployable on C-130 through C-5 aircraft, including airdrop from the C-130.

LOSAT is capable of operating autonomously or with other systems using its digitized command and control capability. The fire control system allows the gunner/commander to acquire and auto-track up to three targets. Once a launch consent is issued, the system automatically initializes and guides the missiles to the targets in a sequential manner. The missile accelerates to 5000 feet per second, flies to maximum range in less than four seconds, and has the capability to deliver five times the kinetic energy of current tank rounds.

LOSAT is intended to contribute to *Joint Vision 2010* as a *precision engagement* system enhancing the Army's *dominant maneuver* capabilities in the ground battle.

## **BACKGROUND INFORMATION**

The LOSAT program began as an Army Acquisition Category I system with oversight by DOT&E. In 1992, analysis by the Army caused the program to be reduced to a Technology Demonstration. Although the Joint Requirements Oversight Council upgraded the program to an Advanced Concept Technology Demonstration (ACTD) in 4QFY97, formal testing of LOSAT has remained severely limited. Initially, LOSAT was to be mounted on an extended length Bradley Fighting Vehicle. As a Technology Demonstration it was to be mounted on an Armored Gun System (AGS) chassis, but when the AGS program was cancelled, LOSAT was reconfigured to a HMMWV chassis. Current design efforts involve updating the missile electronics and integrating the fire unit electronics into the HMMWV.

## **TEST & EVALUATION ACTIVITY**

Due to budget constraints, there was little T&E activity this year. However, soldiers visited with contract personnel periodically to work on various aspects of system/soldier interface.

## **TEST & EVALUATION ASSESSMENT**

At this stage of the program's history, only limited assessments based on earlier developmental tests are possible. Under controlled test conditions, the missile is capable of defeating any known tank it hits. Launch effects for shock, g-load, flash, toxic gases, pressure, and sound (in and outside the vehicle) also fall within the Army's acceptable ranges for human factors.

The Army fully supports LOSAT. The Army has funded EMD to start in FY03. The Extended Planning Annex funds procurement of four battalion sets in FY06, and the Total Army Analysis-07 contains the manpower. However, LOSAT ACTD is feeling the impacts of budget constraints. According to the current schedule, testing is expected to resume in 2002 and 2003 with an air mobility demonstration of system air-drop and sling-load capability, a live-fire demonstration with user-in-the-loop, and a force-on-force exercise in conjunction with a brigade rotation at the National Training Center, Ft. Irwin, CA. If the Army does not receive requested funding for LOSAT ACTD in FY00, a major restructuring will be required. If funding is restored, two "early risk reduction flight tests" are to be conducted in FY00 to confirm performance of a new Inertial Measurement Unit. As a point of interest, these tests call for the missile to follow a pre-programmed path rather than being fired at targets.

LOSAT has numerous operational performance questions to be addressed in future testing—either within the ACTD or in subsequent formal OT&E covered by a TEMP. Some of the many questions are:

What are the LOSAT tactics, techniques, and procedures for light forces? How will the LOSAT gunner identify friend-or-foe prior to an engagement? Can the LOSAT gunner auto-track multiple targets and engage sequentially? What are the impacts of countermeasure and thermal clutter effects on target acquisition, tracking, and command link? And finally, how survivable is the LOSAT crew on the modern battlefield?